

10400 Eaton Place  
Suite 312  
FAIRFAX, VA  
Phone: (703) 385-5200  
Fax: (703) 385-5080

**KEATING & BENNETT LLP**

# Fax

**To:** Examiner Dougherty

**From:** Joseph R. Keating

**Fax:** 703-872-9319

**Date:** August 11, 2003

**Phone:** 703-308-1628

**Pages:** 7

**Re:** 09/811,660

**CC:**

36856.447

**•Comments:**

Examiner Dougherty,

Please find attached hereto the following documents for the above-identified application:

Request for Reconsideration.

Respectfully submitted,



Joseph R. Keating  
for  
Keating & Bennett, LLP  
(Registration Number 37,368)

**FAX RECEIVED**

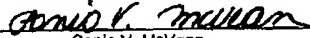
**AUG 11 2003**

**TECHNOLOGY CENTER 2800**

**CERTIFICATE OF FACSIMILE TRANSMISSION**

I hereby certify that this correspondence is being transmitted to  
Group Art Unit 2834, 703-872-9319, addressed to:  
Commissioner for Patents, P.O. Box 1450, Alexandria, VA  
22313-1450.

Date: August 11, 2003

  
Sonia V. McVean

**RESPONSE UNDER 37 C.F.R. § 1.116  
EXPEDITED PROCEDURE  
GROUP ART UNIT 2834****PATENT  
36856.447****IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Applicant: Akiteru TAKATSUKA et al.	Art Unit: 2834
Serial No.: 09/811,660	
Filed: March 19, 2001	Examiner: T. Dougherty
Title: METHOD FOR SELECTING PIEZOELECTRIC TRANSFORMER CHARACTERISTIC	

**REQUEST FOR RECONSIDERATION****FAX RECEIVED**

AUG 11 2003

TECHNOLOGY CENTER 2800

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

In response to the Office Action dated May 15, 2003, please reconsider the above identified application in view of the following remarks.

On May 1, 2003, Applicants' counsel conducted a telephonic interview with the Examiner. Applicants' counsel pointed out errors in the Office Action issued on April 22, 2003. The Examiner agreed and issued an Office Action on May 15, 2003. The present Request for Reconsideration is in response to the outstanding Office Action dated May 15, 2003.

Claims 1-24 are pending in this application.

Claims 1-3, 7-9, 13-15 and 19-21 were rejected under 35 U.S.C. § 103 (a) as being unpatentable over Sato et al. (US 5,424,602) in view of Lejeune (US 6,269,326). Claims 4-6, 10-12, 16-18 and 22-24 were rejected under 35 U.S.C. 103 (a) as being unpatentable over Sato et al. (US 5,424,602) and Lejeune (US 6,269,326) in view of Onishi et al. (JP 2000-216450). Claims 4-6, 10-12, 16-18 and 22-24 were rejected

Serial No. 09/811,606

August 11, 2003

Reply to the Office Action dated May 15, 2003

Page 2 of 6

under 35 U.S.C. 103 (a) as being unpatentable over Sato et al. (US 5,424,602) and Lejeune (US 6,269,326) in view of Kawada (US 3,778,648). Applicants respectfully traverse the rejections of claims 1-24.

Claim 1 recites:

"A method for selecting a piezoelectric transformer having a desired characteristic which is **performed in a method of manufacturing a piezoelectric transformer**, comprising the steps of:

connecting a primary-side driving section of a piezoelectric transformer to a high-frequency generator while leaving a secondary-side generating section thereof in an open state;

causing said high-frequency generator to sequentially generate and sweep a high-frequency signal over a predetermined frequency range;

**measuring a resonant frequency of an input-impedance-versus-frequency characteristic of the piezoelectric transformer;**

**selecting the piezoelectric transformer if said piezoelectric transformer has a desired characteristic based on the value of the measured resonant frequency; and**

**rejecting the piezoelectric transformer if the piezoelectric transformer does not have a desired characteristic based on the value of the measured resonant frequency."** (emphasis added)

Applicants' claim 1 recites a method of selecting piezoelectric transformers "performed in a method of manufacturing a piezoelectric transformer" which include the steps of "measuring a resonant frequency of an input-impedance-versus-frequency characteristic of the piezoelectric transformer," "selecting the piezoelectric transformer if said piezoelectric transformer has a desired characteristic based on the value of the measured resonant frequency," and "rejecting the piezoelectric transformer if the piezoelectric transformer does not have a desired characteristic based on the value of the measured resonant frequency." Applicants' claims 4, 7, 10, 13, 16, 19 and 22 recite method steps that are similar to the method steps recited in Applicants' claim 1, including the above emphasized method steps. With the improved features of claims 1, 4, 7, 10, 13, 16, 19 and 22, Applicants have been able to provide a method for selecting a piezoelectric transformer characteristic in which the piezoelectric transformer can be

Serial No. 09/811,606

August 11, 2003

Reply to the Office Action dated May 15, 2003

Page 3 of 6

evaluated in an isolated state and the selecting time can be reduced (see, for example, the first full paragraph on page 3 of the Specification).

Applicants agree with the Examiner's conclusions in the first paragraph on page 3 of the Office Action that Sato et al. fails to teach or suggest the step of rejecting the piezoelectric transformer or that the testing is part of quality control. The Examiner has relied upon Lejeune to allegedly cure these deficiencies in Sato et al.

First, the Examiner has alleged in the last full paragraph on page 2 of the outstanding Office Action that Sato et al. teaches "selecting the piezoelectric transformer based on the value of the measured resonant frequency." Sato et al. clearly does not teach or suggest this feature.

The Examiner admits this fact in the first paragraph on page 3 of the outstanding Office Action when he states that "Sato [et al.] doesn't note retention or rejection of the piezoelectric transformer does not have desired characteristics based on the value of the measured resonant frequency" (emphasis added). Thus, because the Examiner has admitted that Sato et al. fails to teach or suggest a step of "retention or rejection" or selection of the piezoelectric transformer, the Examiner cannot reasonably allege that Sato et al. teaches the step of "selecting the piezoelectric transformer if said piezoelectric transformer has a desired characteristic based on the value of the measured resonant frequency" (emphasis added) as recited in Applicants' claim 1.

As argued in the Amendment dated March 24, 2003, Sato et al. merely measures the characteristics of the piezoelectric transformer after the piezoelectric transformer has been manufactured according to preferred embodiments of the invention of Sato et al. under the two conditions where the output terminals are shorted and where no load is connected across the output terminals. Sato et al. merely measures input-impedance-versus-frequency characteristics of a finished-product piezoelectric transformer and displays these measured characteristics of the finished-product piezoelectric transformer graphically in **Figs. 38A-D**, and does nothing more based on the measured characteristics. As clearly admitted by the Examiner, Sato et al. clearly

Serial No. 09/811,606  
August 11, 2003  
Reply to the Office Action dated May 15, 2003  
Page 4 of 6

does not teach or suggest the step of "selecting the piezoelectric transformer if said piezoelectric transformer has a desired characteristic based on the value of the measured resonant frequency" as recited in Applicants' claim 1 because the Examiner admitted that Sato et al. does not teach "retention or rejection" of the piezoelectric transformer, which is the equivalent of the step of selecting recited in Applicants' claim 1.

Second, the Examiner has stated in the last paragraph on page 2 of the outstanding Office Action that "[t]he transformer in every figure [of Sato et al.] is in an isolated state in which is not mounted on a mounting substrate." Apparently, the Examiner divines from this arrangement shown in the Drawings that the testing of the piezoelectric transformers shown in **Figs. 38A-D** is done before the completion of manufacturing. However, there is absolutely no support in Sato et al. for this leap in reasoning. Thus, contrary the Examiner's allegations, Sato et al. clearly fails to teach or suggest the step of selecting piezoelectric transformers during the manufacture of the piezoelectric transformer as recited in Applicants' claim 1.

Third, the Examiner has alleged in the second paragraph on page 3 of the outstanding Office Action that Lejeune "doesn't provide what specific components are to be tested." However, Lejeune states in lines 9 and 10 that "semiconductor electronic components are tested." Thus, contrary to the Examiner's allegation, Lejeune clearly and specifically discloses what components are to be tested.

The Examiner has failed to explain why one of ordinary skill in the art would have been motivated to modify Sato et al., which is directed to piezoelectric transformers, in view of a Lejeune, which is directed to testing of semiconductor devices. The Examiner is reminded that obviousness cannot be established by combining the teachings of the prior art to produce the claimed invention, absent some teaching, suggestion or incentive supporting the combination. In re Geiger, 815 F.2d 686, 2 USPQ 1276, 1278 (Fed. Cir. 1987).

Accordingly, Applicants respectfully request reconsideration and withdrawal of

Serial No. 09/811,606

August 11, 2003

Reply to the Office Action dated May 15, 2003

Page 5 of 6

the rejection of claims 1, 7, 13, and 19 under 35 U.S.C. § 103 (a) as being unpatentable over Sato et al. in view of Lejeune.

The Examiner has relied upon Onishi et al. and Kawada et al. to allegedly cure various deficiencies in the combined teachings of Lejeune and Sato et al.

First, Onishi et al. clearly does not teach a step of selecting as recited in Applicants' claimed invention. Onishi et al. teaches in the solution section of the English language Abstract selecting the drive frequency of the piezoelectric transformer, **NOT the bandwidth** of the piezoelectric transformer as recited in Applicants' claims 4, 10, 16, and 22.

Second, the Examiner has alleged in the paragraph bridging pages 3 and 4 of the outstanding Office Action that it would have been obvious to one of ordinary skill in the art to modify the combined teachings of Sato et al. and Lejeune because "the power conversion efficiency of a power conversion device is set to be maximum." However, this motivation is directed, as noted above, to the driving voltage of the piezoelectric transformer, **NOT to the bandwidth** of the piezoelectric transformer. That is, the motivation provided by the Examiner is directed to the operation of a finished piezoelectric transformer and is not directed to any step of manufacturing a piezoelectric transformer.

Third, Kawada clearly does not teach a step of selecting as recited in Applicants' claimed invention. Kawada teaches in lines 13-31 of column 2 selecting the drive frequency of the piezoelectric transformer, **NOT the bandwidth** of the piezoelectric transformer as recited in Applicants' claims 4, 10, 16, and 22. That is, the motivation provided by the Examiner is directed to the operation of the finished piezoelectric transformer and is not directed to in step of manufacturing.

Fourth, as noted above, the Examiner's alleged motivation for modifying the combined teachings of Sato et al. and Lejeune is directed to the operation of a finished piezoelectric transformer and is not directed to any step of manufacturing a piezoelectric transformer.

Serial No. 09/811,606  
August 11, 2003  
Reply to the Office Action dated May 15, 2003  
Page 6 of 6

Accordingly, Applicants respectfully request reconsideration and withdrawal of the rejections of claims 4, 10, 16, and 22 under 35 U.S.C. 103 (a) as being unpatentable over Sato et al. and Lejeune in view of Onishi et al. and under 35 U.S.C. 103 (a) as being unpatentable over Sato et al. and Lejeune in view of Kawada.

Accordingly, Applicants respectfully submit that none of the prior art of record, applied alone or in combination, teaches or suggests the unique combination and arrangement of elements recited in claims 1, 4, 7, 10, 13, 16, 19, and 22 of the present application. Claims 2, 3, 5, 6, 8, 9, 11, 12, 14, 15, 17, 18, 20, 21, 23 and 24 depend upon claims 1, 4, 7, 10, 13, 16, 19, and 22 and are therefore allowable for at least the reasons that claim 1 is allowable.

In view of the foregoing amendments and remarks, Applicants respectfully submit that this application is in condition for allowance. Favorable consideration and prompt allowance are solicited.

The Commissioner is authorized to charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account No. 50-1353.

Respectfully submitted,

Date: August 11, 2003



Attorneys for Applicants

Joseph R. Keating  
Registration No. 37,368

Christopher A. Bennett  
Registration No. 46,710

**KEATING & BENNETT LLP**  
10400 Eaton Place, Suite 312  
Fairfax, VA 22030  
Telephone: (703) 385-5200  
Facsimile: (703) 385-5080

**FAX RECEIVED**

AUG 11 2003

TECHNOLOGY CENTER 2800